APPENDIX UNDER 37 CFR 1.121(b)

After page 12, line 10, please insert the following paragraph:

FIG. 34 is a schematic of a jet drain for draining liquid from an upper surface of a slide.

Please amend page 71, lines 3-18 as follows:

Abstract

An automated immunostaining apparatus having a reagent application zone and a reagent supply zone. The apparatus has a carousel slide support supporting a plurality of slide supports thereon, and drive [means] engaging the carousel slide support for consecutively positioning each of a plurality of slide supports in the reagent application zone. The apparatus also has a carousel reagent support having a plurality of reagent container supports thereon, and drive [means] engaging the carousel for rotating the carousel and positioning a preselected reagent container support in the reagent supply zone. The apparatus also has a reagent delivery actuator [means] positioned for engaging a reagent container positioned on a container support in the reagent delivery zone and initiating reagent delivery from the reagent container to a slide supported on a slide support in the reagent receiving zone.

APPENDIX UNDER 37 CFR 1.121(c)

72. (Amended) [A] In a method for automatically staining a biological sample, the biological sample being on a support medium and substantially covered by a first aqueous solution, and an evaporation-inhibiting liquid phase covering the first aqueous solution, the improvement comprising: [comprising the steps of

a) contacting a biological sample on a support medium with a first solution such that said first solution substantially covers said biological sample, the first solution being aqueous;

b) applying a second solution to cover the first solution-covered biological sample, the second solution being substantially water-immiscible and having a specific gravity less than water; and

c) stirring said second solution such that motion is transferred into said first solution zone]

a) dispensing a reagent onto either the support medium or the evaporation-inhibiting liquid phase; and

b) sending at least one stream of air to a surface of the evaporation-inhibiting liquid phase to move the evaporation-inhibiting liquid phase, thereby stirring the reagent with the biological sample on the support medium while preserving the biological sample from dehydration from the stream of air.

73. (Amended) The method of claim 72, wherein [the step of applying the second solution includes applying the second solution] the evaporation-inhibiting liquid phase is

applied to an impact zone, the impact zone being between the biological sample and an end of the support medium.

76. (Amended) [The method of claim 74,] A method for automatically staining a biological sample comprising the steps of

a) contacting a biological sample on a support medium with a first solution such that said first solution substantially covers said biological sample, the first solution being aqueous;

b) applying a second solution to cover the first solution-covered biological sample, the second solution being substantially water-immiscible and having a specific gravity less than water;

c) stirring said second solution such that motion is transferred into said first solution; and

d) applying reagent, the step of applying reagent being performed after the step of applying a second solution,

wherein the step of applying the second solution includes applying the second solution to an impact zone, the impact zone being between the biological sample and an end of the support medium;

wherein the step of applying reagent includes applying reagent to an area between the impact zone and an edge of the biological sample; and

wherein the reagent passes through the second solution.

80. (Amended) The method of claim [79] 72, wherein the stream of air is directed to an area on the surface of the evaporation-inhibiting liquid phase [the area on the surface of the second solution is] between a center of the [second solution] evaporation-inhibiting liquid phase and an edge of the support medium.

81. (Amended) The method of claim 80,

[wherein reagent is underneath the second solution; and]

wherein the at least one gas stream moves the reagent in a circular path.

82. (Amended) The method of claim [79] 72, wherein two streams are applied; and

wherein the two streams are applied in opposite directions.

83. (Amended) The method of claim [79] 72, wherein two streams are applied;

wherein the first stream is directed against a first area of the surface of the [second solution] evaporation-inhibiting liquid phase between a center of the [second solution] evaporation-inhibiting liquid phase and a first edge of the support medium; and

wherein the second stream is directed against a second area of the [second solution] evaporation-inhibiting liquid phase between the center of the second solution and a second edge of the support medium.

84. (Amended) The method of claim 72, wherein stirring said [second solution] evaporation-inhibiting liquid phase comprises directing at least one stream of air at an angle to the surface of said [second solution] evaporation-inhibiting liquid phase and

maintaining it long enough to cause a rotation of the [second solution] evaporation-inhibiting liquid phase.

85. (Amended) The method of claim 84, wherein stirring said [second solution] evaporation-inhibiting liquid phase comprises creating a vortex in the [second solution] evaporation-inhibiting liquid phase.

86. (Amended) [The method of claim 84,] A method for automatically staining a biological sample comprising the steps of

a) contacting a biological sample on a support medium with a first solution such that said first solution substantially covers said biological sample, the first solution being aqueous;

b) applying a second solution to cover the first solution-covered biological sample, the second solution being substantially water-immiscible and having a specific gravity less than water; and

c) stirring said second solution such that motion is transferred into said first solution,

wherein stirring said second solution comprises directing at least one stream of air at an angle to the surface of said second solution and maintaining it long enough to cause a rotation of the second solution,

wherein stirring said second solution comprises sequentially directing at least one stream of air, in opposing directions, such that the rotational direction of said second solution is sequentially reversed.

87. (Amended) The method of claim 72, [A method for automatically staining a biological sample comprising the steps of

a) contacting a biological sample on a support medium with an aqueous solution such that said aqueous solution substantially covers said biological sample;

b) applying an evaporation-inhibiting liquid phase to cover the aqueous solution-covered biological sample; and

c) stirring said evaporation-inhibiting liquid phase such that] wherein the step of sending the stream of air causes kinetic motion [is] to be transferred into said first aqueous solution [zone].

94. (Amended) [The method of claim 92,] A method for automatically staining a biological sample comprising the steps of

a) contacting a biological sample on a support medium with an aqueous solution such that said aqueous solution substantially covers said biological sample;

b) applying an evaporation-inhibiting liquid phase to cover the aqueous solution-covered biological sample; and

c) stirring said evaporation-inhibiting liquid phase such that kinetic motion is transferred into said aqueous solution,

wherein stirring said evaporation-inhibiting liquid phase comprises sequentially directing at least one stream of air, in opposing directions, such that the rotational direction of said evaporation-inhibiting liquid phase is sequentially reversed.

98. (Amended) The method of claim [97] 72, [whereby] wherein the step of stirring the evaporation-inhibiting liquid phase accelerates [the] rate of dispersal of reagent to the biological sample covered by the aqueous solution.

APPENDIX OF CURRENTLY PENDING CLAIMS

72. In a method for automatically staining a biological sample, the biological sample being on a support medium and substantially covered by a first aqueous solution, and an evaporation-inhibiting liquid phase covering the first aqueous solution, the improvement comprising:

a) dispensing a reagent onto either the support medium or the evaporation-inhibiting liquid phase; and

b) sending at least one stream of air to a surface of the evaporation-inhibiting liquid phase to move the evaporation-inhibiting liquid phase, thereby stirring the reagent with the biological sample on the support medium while preserving the biological sample from dehydration from the stream of air.

73. The method of claim 72, wherein the evaporation-inhibiting liquid phase is applied to an impact zone, the impact zone being between the biological sample and an end of the support medium.

76. A method for automatically staining a biological sample comprising the steps of

a) contacting a biological sample on a support medium with a first solution such that said first solution substantially covers said biological sample, the first solution being aqueous;

b) applying a second solution to cover the first solution-covered biological sample, the second solution being substantially water-immiscible and having a specific gravity less than water;

c) stirring said second solution such that motion is transferred into said first solution; and

d) applying reagent, the step of applying reagent being performed after the step of applying a second solution,

wherein the step of applying the second solution includes applying the second solution to an impact zone, the impact zone being between the biological sample and an end of the support medium;

wherein the step of applying reagent includes applying reagent to an area between the impact zone and an edge of the biological sample; and

wherein the reagent passes through the second solution.

77. The method of claim 72, wherein said biological sample comprises tissue.

80. The method of claim 72, wherein the stream of air is directed to an area on the surface of the evaporation-inhibiting liquid phase between a center of the evaporation-inhibiting liquid phase and an edge of the support medium.

81. The method of claim 80,

wherein the at least one gas stream moves the reagent in a circular path.

82. The method of claim 72, wherein two streams are applied; and

wherein the two streams are applied in opposite directions.

83. The method of claim 72, wherein two streams are applied;

wherein the first stream is directed against a first area of the surface of the evaporation-inhibiting liquid phase between a center of the evaporation-inhibiting liquid phase and a first edge of the support medium; and

wherein the second stream is directed against a second area of the evaporation-inhibiting liquid phase between the center of the second solution and a second edge of the support medium.

84. The method of claim 72, wherein stirring said evaporation-inhibiting liquid phase comprises directing at least one stream of air at an angle to the surface of said evaporation-inhibiting liquid phase and maintaining it long enough to cause a rotation of the evaporation-inhibiting liquid phase.

85. The method of claim 84, wherein stirring said evaporation-inhibiting liquid phase comprises creating a vortex in the evaporation-inhibiting liquid phase.

86. A method for automatically staining a biological sample comprising the steps of

a) contacting a biological sample on a support medium with a first solution such that said first solution substantially covers said biological sample, the first solution being aqueous;

b) applying a second solution to cover the first solution-covered biological sample, the second solution being substantially water-immiscible and having a specific gravity less than water; and

c) stirring said second solution such that motion is transferred into said first solution,

wherein stirring said second solution comprises directing at least one stream of air at an angle to the surface of said second solution and maintaining it long enough to cause a rotation of the second solution,

wherein stirring said second solution comprises sequentially directing at least one stream of air, in opposing directions, such that the rotational direction of said second solution is sequentially reversed.

87. The method of claim 72, wherein the step of sending the stream of air causes kinetic motion to be transferred into said first aqueous solution.

89. The method of claim 87, wherein said biological sample comprises polynucleic acid molecules.

90. The method of claim 87, wherein said support medium is a glass microscope slide.

91. The method of claim 87, wherein said evaporation-inhibiting liquid phase is a hydrocarbon having from about 9 to about 18 carbon atoms.

94. A method for automatically staining a biological sample comprising the steps of

a) contacting a biological sample on a support medium with an aqueous solution such that said aqueous solution substantially covers said biological sample;

b) applying an evaporation-inhibiting liquid phase to cover the aqueous solution-covered biological sample; and

c) stirring said evaporation-inhibiting liquid phase such that kinetic motion is transferred into said aqueous solution,

wherein stirring said evaporation-inhibiting liquid phase comprises sequentially directing at least one stream of air, in opposing directions, such that the rotational direction of said evaporation-inhibiting liquid phase is sequentially reversed.

98. The method of claim 72, wherein the step of stirring the evaporation-inhibiting liquid phase accelerates rate of dispersal of reagent to the biological sample covered by the aqueous solution.

99. The method of claim 72, wherein the support medium is a slide.